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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/710,175

06/23/2004

Han-Chang Kang

REAP0025USA

4174

27765

7590

12/19/2005

EXAMINER

NGUYEN, LINH M

NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION

P.O. BOX 506

MERRIFIELD, VA 22116

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/710,175

Applicant(s)

KANG ET AL.

Examiner

Linh M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,7 and 14-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,7 and 14-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

This is a response to Applicants' amendment filed 11/25/2005. By virtue of this amendment, claims 2-6 and 8-13 are canceled, claims 14-32 are newly added; thus claims 1, 7 and 14-32 are currently presented in the instant application.

#### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 14-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. a) Features not shown in disclosure from claim 14 - a second buffer for buffering a second input signal and outputting a second output signal; a second DAC for outputting a second control voltage corresponding to a second digital value representative of a phase delay; and a second variable capacitor coupled to the second DAC and the second buffer, the capacitance value of the second variable capacitor corresponding to the second control voltage; wherein by controlling at least one of the first and the second digital values, the phase difference between the first input signal and the second input signal are adjusted, and b) Features not shown in the disclosure from claim 25 - buffering a second input signal and outputting a second output signal; providing a second digital value representative of a second phase delay respectively; and adjusting a second capacitance value of a second variable capacitor with a second control voltage

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generated from the second digital value.

Claims 15-24 and 26-32 are also rejected under 35 U.S.C. 112, first paragraph because of the technical deficiencies of claim 14 and claim 25, respectively.

Clarification/ Correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kameya (U.S. Patent No. 4,829,272) in view of Park (U.S. Patent No. 6,219,397).

With respect to claims 1 and 7, Kameya discloses, in Fig. 1, an apparatus and its corresponding method for generating a phase delay comprising a buffer [I] for buffering an input signal and outputting an output signal [3]; a DAC for outputting a control voltage [Vd] corresponding to a digital value representative of a phase delay, and a variable capacitor [Dv] coupled to the DAC and the buffer, the capacitance value of the variable capacitor corresponding to the control voltage, wherein by controlling the capacitance value, the apparatus adjusts the phase delay between the input signal and the output signal.

Kameya fails to disclose the voltage-controlled capacitor is a P+/N well junction voltage-controlled capacitor.

Park discloses, in column 6, lines 59-60, a p+/n-well junction voltage controllable capacitor.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to configure an apparatus for phase delaying with a P+/N well junction voltage-controlled capacitor as taught by Park in order to achieve a large tuning range since such circuit arrangement with the P+/N well junction voltage-controlled capacitor for the stated purpose has been a well known practice as evidenced by the teachings of Park (*see Park, col. 6, lines 59-60*).

### ***Remarks***

5. Note that claims 14-32 are not indicated as allowable nor rejected due to the claims' deficiencies as indicated in the 35 USC § 112-rejection section.
6. Applicants' arguments filed 11/25/2005 have been fully considered but they are not persuasive.

With respect to the Applicants' argument regarding claims 1 and 7, at page 8, first paragraph, the Applicants stated that "*Park fails to teach or suggest utilizing the p+/n- well junction to adjust the phase delay between the input signal and an output signal*". First, as stated in MPEP 2163.02, the subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement. Second, Park teaches a p+/n- well junction voltage-controlled capacitor to provide a large tuning range which very well could be applicable for adjusting the phase delay between an input and an output.

Still with respect to the Applicants' argument regarding claims 1 and 7, at page 8, first paragraph, the Applicants challenge the examiner to show where such a suggestion or motivation in the prior to combine Park's teachings with Kameya's teachings to produce the claimed feature

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“the variable capacitor being a P+/N well junction voltage controlled capacitor”. It is not necessary that the cited references or prior art actually suggest expressly or in so many words, the changes or improvements that applicants have made. The test for combining references is what the references as a whole would have suggested to one of ordinary skill in the art. In re Sheckier, 168 USPQ 716 (CCPA 1971); In re McLaughlin 170 USPQ 209 (CCPA 1971); In re Young 159 USPQ 725 (CCPA 1968).

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

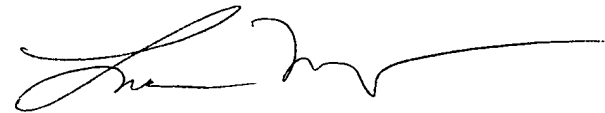
### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (571) 272-1749. The examiner can normally be reached on Alternate Mon, Tuesday - Friday from 7:00 to 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**LINH MY NGUYEN**  
**PRIMARY EXAMINER**